

CLAIM LISTING:

1. (Previously presented) An erosion-resistant article comprising:
a zirconium alloy support; and
an oxide coating comprising yttrium disposed over said support, wherein said support and said oxide coating have material compositions that differ from one another in coefficient of thermal expansion by no more than $5 \times 10^{-6}/K$, and wherein said erosion-resistant article is a plasma process chamber component.
2. (Original) The erosion-resistant article of claim 1, wherein said material compositions differ from one another in coefficient of thermal expansion by no more than $3 \times 10^{-6}/K$.
3. (Original) The erosion-resistant article of claim 1, wherein said material compositions differ from one another in coefficient of thermal expansion by no more than $1 \times 10^{-6}/K$.
4. (Previously presented) An erosion-resistant article comprising:
an aluminum-silicon carbide support; and
an oxide coating comprising yttrium disposed over said support, wherein said support and said oxide coating have material compositions that differ from one another in coefficient of thermal expansion by no more than $5 \times 10^{-6}/K$, wherein said erosion-resistant article is a plasma process chamber component.
- 5- 6. (Canceled)
7. (Previously presented) The erosion-resistant article of claim 4, wherein said oxide coating is an yttria coating.
8. (Previously presented) The erosion-resistant article of claim 4, wherein said oxide coating further comprises aluminum.

9. (Previously presented) The erosion-resistant article of claim 4, wherein said oxide coating is an yttrium aluminum garnet coating.
10. (Previously presented) The erosion-resistant article of claim 4, further comprising an intermediate region between said oxide coating and said support, wherein said intermediate region, said support and said oxide coating have material compositions that differ from one another in coefficient of thermal expansion by no more than $5 \times 10^{-6}/K$.
11. (Previously presented) The erosion-resistant article of claim 4, wherein said component is a chamber wall component.
12. (Previously presented) The erosion-resistant article of claim 4, wherein said component is a ring-shaped component.
13. (Original) The erosion-resistant article of claim 12, wherein said ring-shaped component is a process kit component.
14. (Original) The erosion-resistant article of claim 13, wherein said ring-shaped component is a focus ring.
15. (Original) The erosion-resistant article of claim 13, wherein said ring-shaped component is a capture ring.
16. (Original) The erosion-resistant article of claim 13, wherein said ring-shaped component is an insert ring.
17. (Previously presented) The erosion-resistant article of claim 4, wherein said component is a dielectric window.
18. (Previously presented) An erosion-resistant article comprising:
a support formed from aluminum-silicon carbide; and

an oxide coating selected from yttria and yttrium aluminum garnet, wherein said support and said oxide coating have material compositions that differ from one another in coefficient of thermal expansion by no more than $5 \times 10^{-6}/K$, and wherein said erosion-resistant article is a plasma process chamber component.

19. (Original) The erosion-resistant article of claim 18, wherein said plasma process chamber component is selected from a focus ring, an insert ring, a capture ring, a chamber wall component and a dielectric window.

20 - 29. (Cancelled)

30. (Previously presented) An erosion-resistant article comprising:

a support selected from an aluminum-silicon carbide support and a zirconium alloy support; and

a sintered-powder oxide coating comprising yttrium disposed over said support, wherein said support and said oxide coating comprising yttrium have material compositions that differ from one another in coefficient of thermal expansion by no more than $5 \times 10^{-6}/K$.

31. (Previously presented) The erosion-resistant article of claim 30, wherein said material compositions differ from one another in coefficient of thermal expansion by no more than $3 \times 10^{-6}/K$.

32. (Previously presented) The erosion-resistant article of claim 30, wherein said material compositions differ from one another in coefficient of thermal expansion by no more than $1 \times 10^{-6}/K$.

33. (Previously presented) The erosion-resistant article of claim 30, wherein said support is an aluminum-silicon carbide support.

34. (Previously presented) The erosion-resistant article of claim 30, wherein said oxide coating is an yttria coating.

35. (Previously presented) The erosion-resistant article of claim 30, wherein said oxide coating further comprises aluminum.

36. (Previously presented) The erosion-resistant article of claim 30, wherein said oxide coating is an yttrium aluminum garnet coating.

37. (Previously presented) The erosion-resistant article of claim 30, wherein said component is a chamber wall component.

38. (Previously presented) The erosion-resistant article of claim 30, wherein said component is a ring-shaped component.

39. (Previously presented) The erosion-resistant article of claim 30, wherein said component is a dielectric window.

40. (Previously presented) The erosion-resistant article of claim 30, wherein said support is a sintered-powder support.

41. (Previously presented) The erosion resistant article of claim 4, wherein said oxide coating is a physical vapor deposited coating or a chemical vapor deposited coating.

42. (Previously presented) The erosion resistant article of claim 4, wherein said oxide coating is a thermal sprayed coating.

43. (Previously presented) The erosion resistant article of claim 4, wherein said oxide coating is a plasma sprayed coating.

44. (Previously presented) The erosion resistant article of claim 4, wherein said oxide coating is a sintered-powder oxide coating.